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Title: Predictors of Portable Technology Adoption to Support Elementary Children Reading in the Home

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Abstract: Much attention has focused on teacher's technology acceptance, yet the landscape has changed with how children may be learning with the addition of portable technology in the home. Applying the Unified Theory of Acceptance and Use of Technology to informal elementary education, this study identifies predictors of parent's portable technology adoption to support children's reading development in the home. Participants included parents from two elementary schools within 46 classrooms in the southeastern United States. Data collection occurred in two phases: 120 parents responded to a validated survey that identified predictors and behavioral intention to adopt technology; interviews examined adoption predictors. The regression model explained 64% of the variance in parents' behavioral intention to adopt portable technology, with social influence and attitude as the most important predictors. Interview data specified social influence ensued from the child's school and parent community; attitude resulted from children's affinity to use technology. Parents preferred their child read with print books, yet perceived an increase in performance expectancy when their child used portable technology. Findings demonstrate teachers and school administrators must be cognizant of their educational requests on home learning, parents' social media connections influence academic support decisions, and children enjoy reading with portable technology.

Opposed Reviewers:

Predictors of Portable Technology Adoption to Support Elementary Children Reading in the Home

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4 Abstract

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6 Much attention has focused on teacher's technology acceptance, yet the landscape has changed
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8 with how children may be learning with the addition of portable technology in the home.
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11 Applying the Unified Theory of Acceptance and Use of Technology to informal elementary
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13 education, this study identifies predictors of parent's portable technology adoption to support
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15 children's reading development in the home. Participants included parents from two elementary
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17 schools within 46 classrooms in the southeastern United States. Data collection occurred in two
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19 phases: 120 parents responded to a validated survey that identified predictors and behavioral
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23 explained 64% of the variance in parents' behavioral intention to adopt portable technology, with
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25 social influence and attitude as the most important predictors. Interview data specified social
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27 influence ensued from the child's school and parent community; attitude resulted from children's
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29 affinity to use technology. Parents preferred their child read with print books, yet perceived an
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31 increase in performance expectancy when their child used portable technology. Findings
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33 demonstrate teachers and school administrators must be cognizant of their educational requests
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37 children enjoy reading with portable technology. Findings
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43 children enjoy reading with portable technology.

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45 Keywords: attitude; elementary children; informal reading; portable technology adoption; social
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4 Predictors of Portable Technology Adoption to Support Elementary Children Reading in the
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7 Home

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9 **1. Introduction**

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11 In response to an upsurge of portable technology in homes with children (Rideout et. al, 2013;
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13 Zickuhr, 2013), this study identified factors that influenced portable technology adoption to
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15 support elementary children reading in the home. This study also examined how technology
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17 adoption influences affected parents' academic support decisions for their child reading in the
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19 home.
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24 In 2010, the release of Apple's iPad™ (2010) and Samsung's Galaxy Tab™ (2010)
25
26 revolutionized the personal computing market. Tablet ownership for those with children in the
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28 home nearly doubled in approximately one year – from 26% in April 2012 to 50% in May 2013
29
30 (Zickuhr, 2013). Another national study of those with children aged 0-8 supports this increase in
31
32 portable technology ownership in the home (Rideout et. al, 2013): tablet ownership increased
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34 from eight percent in 2011 to 40% in 2013 and smartphone ownership grew from 41% to 63%.
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36 Based on the growth in portable technology adoption in homes with young children, it is
37
38 important to investigate how the inclusion of technology may be affecting how parents perceive
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40 their role of supporting their child reading in the home.
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46 The need to study technology adoption influences in the home is critical because home
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48 adoption and subsequent technology use affects how children approach technology use in the
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50 classroom (Murphy, DePasquale, & McNamara, 2003) and because technology plays an
51
52 important role in today's formal and informal learning (Straub, 2009). Despite these dated
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54 conclusions, they both provide value for the current context of children using technology as a
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56 learning tool in the home, particularly based on the newness of iPad™ and other tablets in 2010.
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4 Further, while research has focused attention on technology acceptance and use in formal
5 learning contexts (Burnett, 2009), very little research has examined technology adoption as it
6 relates to technology use as a developmental reading tool in the home.
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11 Concerns about technology adoption decisions in the home have led researchers to
12 believe children's home use of technology may differ in intentions and purposes from
13 technology use inside the classroom (Plowman, Stevenson, Stephen, & McPake, 2012;
14 Vandewater et al., 2007). It is possible perceptions of how parents believe their child should use
15 portable technology to read will contrast with teachers' perceptions because parents may have
16 different goals and expectations for giving their child access to portable technology. For
17 example, some parents may allow their children to use technology primarily for entertainment
18 purposes (e.g., to stream movies and play games), whereas teachers may be more likely to
19 request children use technology for educational purposes. Thus, when children enter the formal
20 educational environment and are asked to use the same portable technologies they have at home
21 but for other purposes, they may experience cognitive dissonance (Festinger, 1962) associated
22 with needing to augment their existing schema for portable technology use in the new
23 environment. Such schema augmentation may involve both positive and negative transfer of
24 expectations, beliefs, knowledge, and skills (Singley & Anderson, 1989).
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45 An understanding of influences on parents' behavioral intention to adopt portable
46 technology in the home can provide guidance for schools and parents to work collaboratively to
47 support children's reading development with portable technology in formal and informal
48 learning contexts. This study's recognition of which factors contribute to parents' technology
49 adoption for supporting their child's reading development attempts to provide an understanding
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4 of how schools can support parents and children’s academic development in multiple learning
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6 contexts.
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8 9 **1.1 Connecting informal with formal learning contexts**

10 National surveys on technology ownership in the home indicate portable technology is available
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12 in the homes of most children and ownership is steadily increasing (Rideout et. al, 2013;
13
14 Zickuhr, 2013). With children’s ubiquitous access to technology, it is important to consider how
15
16 the addition of technology may be impacting how parents perceive their role in supporting their
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18 child’s reading development in the home. While none of the following studies on collaborative
19
20 and engaging education programs between schools and parents incorporated technology use in
21
22 home and school contexts, the studies acknowledged growth in children’s reading acquisition
23
24 occurred because of parent–teacher collaboration (Becker & Epstein, 1982; Morrow & Young,
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26 1996; Rader, 2000; Sénéchal & Young, 2008).
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33 To establish effective parent–teacher collaborative programs, it is essential to realize the
34
35 development and maturation of oral language, a major component of the emergent literacy
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37 process, occurs in the home (Dickinson & Tabors, 1991). A critical component of understanding
38
39 emergent literacy growth is recognizing parents are children’s first literacy teachers because they
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41 are their child’s first and primary educator (Morris, Taylor, Knight, & Wasson, 1995). A survey
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43 of nearly 3,700 elementary teachers reported that teachers’ most favored method of parental
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45 involvement was parents reading books to and with their children (Becker & Epstein, 1982). A
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47 longitudinal study of over 1,200 elementary children found educational activities at home were
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49 the greatest predictor of children’s academic achievement (Izzo, Weissberg, Kaspro, &
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51 Fendrich, 1999).
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4 Beyond recognizing the importance of parents supporting children reading in the home,
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6 “it could be advantageous to plan a training program for interested parents to assist with home
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8 reading instruction” (Faires, Nichols, & Rickelman, 2000, p. 211). Providing parents with
9
10 explicit strategies to help teach their children to read is well supported by the literacy program
11
12 literature (Faires et al., 2000; Hara & Burke, 1998; Morrow & Young, 1996; Rader, 2000). In
13
14 one literacy collaboration known as the Writing, Reading, and Application Program, explicitly
15
16 modeling at-home literacy strategies for parents contributed to gains in children’s reading
17
18 achievement (Morrow & Young, 1996). This teacher modeled literacy program included parents
19
20 reading to and with their children, engaging in storytelling (with storyboard and puppet props
21
22 provided), journaling together, documenting new vocabulary, and reading *Highlights for*
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24 *Children*TM magazines. Parents’ indicated positive feedback resulted from collaboration: “I
25
26 learned how to help my child and that I could [help]” and “children will know that school is
27
28 important” (Morrow & Young, 1996, p. 12). Other home-school programs achieved similar
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30 increases in children’s reading achievement. Results of the MegaSkills literacy program found
31
32 over 1,600 students and their families saw test scores improve with the increase in parental
33
34 involvement (Rader, 2000). The Chicago longitudinal study improved children’s reading
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36 achievement by cultivating parent relationships (Miedel & Reynolds, 2000).
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45 Cultivating parent–teacher relationships that develop home literacy programs can be
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47 valuable toward helping children become readers and should be considered to improve general
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49 reading practices among elementary children. Further research is essential to reveal how parents’
50
51 perceptions regarding the acquisition of portable technology in the home for children learning to
52
53 read may be shaping 21st century children’s developmental reading skills.
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58 **1.2 Response to new literacies in education**

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4 Children must become proficient users of new literacies of 21st century technologies
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6 (International Reading Association, 2009). Research on portable technology integration has
7
8 revealed the benefits of students learning with portable technology, driven by individualized
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10 academic learning gains and its positive impact on curriculum enhancement and personalized
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12 learning (Liu et al., 2014). Despite a desire for children to use portable technology for learning in
13
14 formal education contexts (Liu et al., 2014), little is known about technology adoption in the
15
16 home (Burnett, 2009), specifically how parents’ technology adoption decisions impact the ways
17
18 parents support their child’s reading development at-home. This study addresses this gap in
19
20 knowledge, identifying how parents’ perceptions of portable technology adoption to help their
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22 child learn to read in the home may inform or explain how children read with technology in the
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24 classroom. This research reveals influential factors that currently shape how today’s 21st century
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26 digitally exposed child is influenced by their parent to learn to read with portable technology in
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28 the home and, more broadly, it contributes to an understanding of how parent decisions in the
29
30 home impact children’s academic development in school (Galindo & Sheldon, 2012; Hoover-
31
32 Dempsey & Sandler, 1997).

33 34 35 36 37 38 39 40 41 **1.3 Adoption Theory**

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43 Adoption theory attempts to understand the complex decision-making process where individuals
44
45 choose one innovation over another. “Adoption theory examines the individual and the choices
46
47 an individual makes to accept or reject a particular innovation,” (Straub, 2009, p. 626) which
48
49 results in a behavioral change. When used in research, adoption models offer insight into
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51 thinking that is otherwise inaccessible. Information obtained through adoption theory can support
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53 and clarify thinking, and in this study’s context, can provide clarity on parental perceptions of
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55 using technology as a tool to support reading development in the home.
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4 Technology adoption models provide a conceptual framework for understanding the
5 influences affecting parents' decisions and practices regarding children's portable technology
6 adoption and use to support reading development in the home. Parents and teachers are educating
7 the same children, yet face disparate challenges, which result from a desire to accomplish
8 different goals (Pomerantz, Moorman, & Litwack, 2007).
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15 16 **1.4 Unified Theory of Acceptance and Use of Technology** 17

18 Multiple adoption models have explained technology adoption behavior, but the Unified Theory
19 of Acceptance and Use of Technology (UTAUT, Venkatesh, Morris, Davis, and Davis, 2003)
20 encompasses several adoption frameworks. The UTAUT's comprehensive design has
21 successfully explained nearly 70% of the variance in user intentions compared to 40% accuracy
22 using the Technology Acceptance Model (Venkatesh & Davis, 2000). The UTAUT model
23 includes the Concerns-Based Adoption Model (CBAM, Hall, 1974), Technology Acceptance
24 Model (Davis, Bagozzi, & Warshaw, 1989), Technology Acceptance Model 2 (Venkatesh &
25 Davis, 2000), Model of PC Utilization (Thompson, Higgins, & Howell, 1991), and Innovation
26 Diffusion Theory (Rogers, 1962). Under UTAUT, technology adoption is an "acceptance or
27 rejection decision" (p. 437) of a system. Influences on the adoption decision include the
28 constructs performance expectancy, effort expectancy, facilitating conditions, and social
29 influence.
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48 The present study added the attitude construct from the Technology Acceptance Model
49 due to its repeated recognition as a significant predictor of an individual's motivation to
50 technology adoption (Almahboub, 2000; Alshare, Freeze, & Kwun, 2009). Attitude is a known
51 influence to explain an individual's technology adoption behavior (Davis et. al, 1989). UTAUT
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4 and the attitude construct from the Technology Acceptance Model forms this study's conceptual
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6 framework (Figure 1).
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10 Insert Figure 1 about here

11 The paucity of research examining parents' adoption of portable technology in the home
12 to support children's reading development formed the impetus for the current study. Guided by
13
14 this study's conceptual framework, the following research questions were addressed:
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18 RQ1. Which factors (performance expectancy, effort expectancy, facilitating conditions,
19 social influence, attitude) predict parents' portable technology adoption decisions to
20 support their child's reading growth in the home?
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24 RQ2. How do the significant predictors impact how parents perceive their role of
25 supporting their child's reading development in the home with the inclusion of portable
26 technology?
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33 **2. Method**

34 **2.1 Research design**

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36 A mixed-method explanatory sequential design (Creswell, 2013) addressed the research
37 questions through two phases. In December 2015, quantitative data from 120 survey responses
38 were collected and analyzed. Quantitative data identified the most significant influences that
39 predicted parents' adoption of portable technology to help their child read in the home. As a
40 follow-up in January and February 2016, 13 semi-structured interviews with participants from
41 the same response pool provided a richer, nuanced explanation of parents' perceptions affecting
42 technology adoption decisions.
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53 **2.2. Context and Participants**

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4 Participants were parents of children enrolled in one of 46 kindergarten to fifth-grade classrooms
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6 at two elementary schools located about 100 miles apart from each other in the southeastern
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8 United States. Minority school representation at school one was 35% compared to 52% at school
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10 two (minority was defined in each School Improvement Plan as other than Caucasian). School
11
12 one, a charter school operating under the public-school district, is a choice school for parents to
13
14 send their children. Also by parental choice, school two contained demographics representative
15
16 of the state where it is located, and is a developmental research school associated with a flagship
17
18 university. School two required parents apply to enroll their child; acceptance is determined by
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20 state representation of gender, race/ethnic origin, family income, exceptional student status, and
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22 academic achievement.
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30 Survey participants included 120 parents of elementary children. Parents reported on their
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32 youngest elementary-aged child, with the mean grade-level response being parents of children in
33
34 second-grade. Of the respondents, 81% were female, 14% were between age 25 and 34, 86%
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36 were 35 and older, 19% received free/reduced lunch, 69% were Caucasian, and 31% held a
37
38 graduate degree. Additionally, 37% reported being the primary decision-maker for technology
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40 adoption in the home. Regarding the children of these parents, 43% were girls, 65% were in
41
42 grades K-2, and 34% were the first-born child.
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47 Insert Table 1 about here
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49 Individual interviews were conducted with 13 parents who were also survey participants,
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51 with seven from school one and six from school two. Of the parents interviewed, 12 were
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53 female, five were younger than 35 years-old, five received free or reduced lunch, eight were
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55 Caucasian, and two held a graduate degree. Seven parents were primary decision-makers of
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57 technology adoption in the home, six reported on their daughter, seven had their youngest
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4 elementary child in grade K-2, and four of these children were first-born. The interview sample
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6 was chosen to represent parents with various intentions to adopt portable technology as identified
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8 by their behavioral intention outcome variable survey sum score. As such, three categories of
9
10 behavioral intention emerged: reluctant ($n = 3$), indifferent ($n = 5$), and eager ($n = 5$).
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14 Insert Table 2 about here
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16 **2.2 Procedure**

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18 Adapted to the context of this study from the original UTAUT survey (Appendix, Venkatesh et
19
20 al., 2003), the 22-item survey instrument of 1-7 Likert-scale items (1 indicating strongly disagree
21
22 and 7 indicating strongly agree) identified influences on parents' portable technology adoption.
23
24 Instrument development emphasized adaptation to the educational context and underwent
25
26 content and construct validation. To improve face validity of survey items, cognitive interviews
27
28 were held with a sample of six parents similar to this study's participants. Five experts in
29
30 educational technology, reading, and survey design compared each adapted survey item to its
31
32 original construct definition and survey item, and commented on each item's accuracy, clarity,
33
34 and comprehensiveness. One of the original survey developers, Venkatesh, also affirmed the
35
36 adaptation of the UTAUT survey to the use of our study.
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43 The researchers requested each of the 46 teachers distribute the survey and were provided
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45 a flyer with a QR code and web link, in addition to an email to send to parents. Limited to one
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47 response per household, 120 surveys were returned. Interview participants were selected based
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49 on an attempt to obtain an equal number of parents with a range of behavioral intention scores, in
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51 addition to a diverse set of demographics. Since the behavioral intention construct summed score
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53 was 21, indicating a strong agreement to adopt portable technology, the researchers attempted to
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4 interview an equal number of parents with a range of behavioral sum scores, such as three
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6 (reluctant user), 12 (indifferent user), and 21 (eager user).
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9 **2.3 Measures and development**

10 **2.3.1 Adapted survey constructs**

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12 UTAUT was designed to explain technology acceptance in management information systems
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14 environments, but has been successfully applied to educational contexts (e.g., Blackwell,
15
16 Lauricella, Wartella, Robb, & Schomburg, 2013; Wong, Teo, & Russo, 2012), and thus, was
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18 adapted to this study's context.
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24 Performance expectancy is the extent an individual believes system use will result in job
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26 performance gains (Venkatesh et al., 2003). In the present study, performance expectancy is the
27
28 belief that using portable technology to help children learn to read contributes to parents' beliefs
29
30 that they are well-performing in their parental role. Effort expectancy is the ease associated with
31
32 system use (Venkatesh et al., 2003). Adapted to this study, effort expectancy is the amount of
33
34 effort required by parents to help their child learn to read using portable technology. Social
35
36 influence is a person's perception that others around them support their system use (Venkatesh et
37
38 al., 2003). This study defines social influence as the extent to which parents believe important
39
40 others think they should use portable technology to help their child learn to read. Venkatesh and
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42 colleagues" (2003) define facilitating conditions as the amount of organizational and technical
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44 infrastructure to support system use. In this study, facilitating conditions is parents' accessibility,
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46 support, and perceived knowledge of how to help their child use portable technology to learn to
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48 read. All of these factors impact the outcome variable, behavioral intention (Venkatesh et al.,
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50 2003), which is the likelihood of performing the target behavior. This study defines behavioral
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4 intention as the extent parents would adopt portable technology to help their child learn to read in
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6 the home.
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9 Attitude encompasses “positive or negative feelings” (Fishbein & Ajzen, 1975, p. 216),
10
11 determined by the extent “the system makes work more interesting,” and because attitude is
12
13 derived from relevant beliefs, attitude directly effects behavioral intention (Davis et al., 1989).
14
15 Adapted to this study, attitude is a combined measure of parents’ perception of their child using
16
17 portable technology and the extent the child enjoys using technology to support at-home reading.
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21 **2.3.2 Guided interview protocols**

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23 Due to the study’s sequential explanatory design, guided semi-structured interview protocols
24
25 were developed for each interview (Patton, 1990). One open-ended question addressed each of
26
27 the study’s variables, with probing questions to deepen responses, reflected by the response to
28
29 the initial open-ended question. To explain social influence behavior, participants were asked,
30
31 “what do those around you think about your child using portable technology devices to learn to
32
33 read?” To address attitude, parents responded to, “how does your child feel about using portable
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35 technology to help them learn to read in the home?”
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40 **2.4 Data analysis**

41 **2.4.1 Survey analysis**

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43 Quantitative data were analyzed using descriptive statistics and regression analysis (Ordinary
44
45 Least Squares). Descriptive statistics reported means and standard deviations for individual
46
47 constructs and overall constructs. Regression analysis identified significant predictors of parents’
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49 behavioral intention to adopt portable technology to help their child learn to read in the home.
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53 **2.4.2 Interview analysis**

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4 Thematic analysis (Braun & Clarke, 2006) helped analyze qualitative data and deductively
5 explain the most significant predictors of parents’ adoption decisions. Thematic analysis is a
6 method of examining data for emergent themes, which is a recursive process of thematic coding
7 and analysis that involves “searching across a data set...to find repeated patterns of meaning”
8 (Braun & Clarke, 2006, p. 15). Because themes are closely linked to the data and may have some
9 relationship to the interview questions (Braun & Clarke, 2006; Patton, 1990), this analytic
10 method was most appropriate for this study’s sequential explanatory design.
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21 Even though research questions should not and were not labeled as themes, this deductive
22 approach to thematic analysis and its flexibility allowed us to begin coding the data. This multi-
23 phased deductive process of data analysis began with examining the data through the lens of
24 each of the study’s constructs (performance expectancy, effort expectancy, facilitating
25 conditions, social influence, attitude). Data in excess of these constructs resulted in eight
26 additional codes (e.g., parent concerns, children’s independence with technology, children’s
27 motivation to read with technology). Further analysis of the additional codes revealed these
28 codes were sufficiently supported by the existing constructs. For example, parent concerns about
29 their child using technology related to social media was supported by performance expectancy
30 and effort expectancy, specific to whether parents felt knowledgeable enough to help their child
31 operate technology and if their child’s use of technology to read eased parents’ role in
32 supporting children’s reading. To determine whether adequate coding was reached, Clarke and
33 Braun’s (2013) suggestion to remove data from the codes was followed, where if the codes alone
34 successfully evoke data, then the codes are meaningful and are retained.
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55 **3. Results**

56 **3.1. RQ1**

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4 Which factors (performance expectancy, effort expectancy, facilitating conditions, social
5 influence, attitude) predict parents' portable technology adoption decisions to support their
6 child's reading growth in the home? Based on survey results, descriptive statistics (Table 3)
7 provide insight into the influential factors that affect portable technology adoption decisions in
8 the home. Each construct was measured using either three or four items with a total sum score
9 possible of 21 or 28, respectively.
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19 Insert Table 3 about here
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21 Performance expectancy ($M = 17.56$, $SD = 4.79$) was measured using four items, with
22 results demonstrating indifference about whether portable technology contributed to parents'
23 effectiveness. Effort expectancy's overall mean score ($M = 11.21$, $SD = 2.31$) resulted from three
24 items, denoting parents' belief they are skilled to help their child learn to read with portable
25 technology. Social influence ($M = 18.37$, $SD = 4.57$) was comprised of four items and produced
26 mixed results, suggesting parents received the least support for their child's portable technology
27 use by those who influence parenting decisions; however, parents conveyed others believe they
28 should use portable technology to help their child learn to read. Facilitating conditions contained
29 four items, of which item three was reverse coded (parents' print-book reading preference),
30 resulting in an adjusted mean score ($M = 19.57$, $SD = 3.16$), which represented parents strongly
31 agree they have knowledge and access to portable technology to help their child learn to read.
32
33 Attitude ($M = 20.82$, $SD = 4.93$) contained four items, specifying parents' and children's likeness
34 to read with portable technology. Behavioral intention ($M = 15.03$, $SD = 4.98$) was measured
35 using three items, showing parents' agreement to use portable technology to help their child
36 learn to read in the home over the next six months. An additional item addressed whether parents
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4 permitted their child to use portable technology in the home to support reading development,
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6 with results that showed 119 out of 120 parents allowed their child to use technology for reading.
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9 Results of the linear regression analysis (Ordinary Least Squares) showed the overall
10 model explained 64% ($adj R^2 = .624$) of the variance of behavioral intention among the
11 respondents ($F(5, 103) = 36.91, p < .0001$). Predictor variables included performance
12 expectancy (PE), effort expectancy (EE), social influence (SI), facilitating conditions (FC) from
13 UTAUT, and the attitude (A) construct from the Technology Acceptance model.
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21 Based on the structural model, the final regression model produced for behavioral
22 intention toward portable technology to help children learn to read in the home was:
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24

$$25 \quad BI = -3.18 + 0.11 PE + 0.27 EE + 0.41 SI - 0.08 FC + 0.30 A$$

26 27 28 **3.1.1. Social influence and attitude predict behavioral intention**

29 Identified in the regression analysis results (Table 4), the most significant predictors of parents'
30 adoption of portable technology were social influence ($\beta = .410, t = 4.19, p = <.0001$) and
31 attitude ($\beta = .30, t = 2.87, p = .005$) – that is, for each unit increase in the social influence
32 variable, the behavioral intention will increase by .41 units, whereas for each unit increase in
33 attitude, the behavioral intention will increase by .30 units. Therefore, the extent others support
34 and believe their child should use portable technology to support reading in the home effects
35 parents' decision to adopt portable technology. The finding of attitude as a significant predictor
36 of adoption behavior accounts for both the child's fondness and parent's positive perception
37 associated with using portable technology to help children learn to read.
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53 Insert Table 4 about here

54 55 **3.1.2. Effort expectancy approached significance**

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4 Effort expectancy approached significance ($\beta = .27, t = 1.61, p = .11$), and is potentially an
5 important predictor of parents' technology adoption decisions. Due to the positive regression
6 coefficient, this result suggests that the less effort expectancy perceived by parents, the more
7 likely they will use portable technology to help their child learn to read.
8
9

10 **3.1.3. Performance expectancy and facilitating conditions were not significant predictors**

11 Performance expectancy ($\beta = .11, t = 1.10, p = .275$) and facilitating conditions ($\beta = -.08, t = -$
12 $.079, p = .432$) were not significant predictors of parents' technology adoption. These findings
13 confirm prior research that was unable to link performance expectancy (e.g., Birch & Irvine,
14 2009; Jairak, Praneetpolgrang & Mekhabunchakij, 2009; Marchewka, Liu, & Kostiwa, 2007) and
15 facilitating conditions (Birch & Irvine, 2009; Jairak et al., 2009; Wong et al., 2012) with
16 technology adoption behavior. Regression analysis indicates parents' intention to adopt portable
17 technology was not as affected by their perceived parenting role (related to helping their child
18 read), nor was technology adoption significantly impacted by parents' knowledge and access to
19 portable technology.
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38 **3.2 RQ2**

39 *How do the significant predictors impact how parents perceive their role of supporting their*
40 *child's reading development in the home with the inclusion of portable technology?* Data from
41 interviews show parents receive pressure from their child's school to use specific portable
42 technology applications to support their child's reading development in the home. Other findings
43 address parental preference to adopt print books, acknowledgement of their child's positive
44 attitude toward using technology, and increased performance expectancy when their child uses
45 portable technology.
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58 **3.2.1 Social influence is derived from the school and broader parent community**

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4 In this study, parents' decision to adopt technology in the home to support their child's reading
5 development was not a choice. Rather, adoption and subsequent use was dictated by the
6
7 following two reasons: a direct response to requests of the child's school and the desire to keep
8
9 pace with other elementary parents.
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14 School requests now require parents purchase technology devices and technology
15 accessories. Akirah's (eager user) school supply list for her kindergarten daughter required she
16 purchase earphones. She reacted, "earphones? I mean, she's in kindergarten. What are they
17 gonna be doing with earphones?" Despite her initial hesitation, she realized "you needed
18 earphones because we're gonna have a lot of technology and they're gonna be on the computer."
19
20 In response to school's testing with the use of computers, Yolanda (reluctant user) expressed
21 similar confliction, "but I knew that she needed one [tablet or laptop] especially [since] third
22 grade came with the [State's End-of-instruction Test], so I got her [a device] one day." In her
23 survey, Mandy reported as indifferent to adopt portable technology, but during the interview
24 divulged her reluctance toward technology. As a mom of a kindergarten boy, Mandy felt
25 pressured by the school when they "sent home a little flyer that said, we're using this program
26 [Istation™]...they push it...they're putting out these reports that kids are on [Istation™] 200-300
27 minutes a week." She explained, "I kinda feel guilty when I don't get my kids on Istation™
28 during the week, and it makes me kinda sometimes feel like maybe I'm not a good mom because
29 I'm not doing Istation™ at home."
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51 In response to the school requiring technology use at home, Nelda (indifferent user)
52 shared how this pressure has created a financial burden:
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55 I'm a single mother with three kids, so when it comes to getting computers and stuff like
56 that, it's just a little bit harder. If we have a computer, you have to have the internet
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4 service, so my kids, we don't have an actual computer, we have a laptop. My daughter
5
6 has the Kindle because she won it on a raffle. The tablet that [my son has], they went
7
8 down to like \$50 now, so his dad got it for him for Christmas.
9

10
11 Parents also revealed intense social pressure to adopt portable technology. Yolanda
12 (reluctant user) admitted, "I think this stuff [technology] sucks...mommy's opinion can't make
13
14 you fail in school...I don't want people to feel like she's not in the loop." Meanwhile, Akirah
15
16 (eager user) explained her impetus for technology adoption was because of how often other
17
18 parents around her use technology, because "everything is based on technology." Nelda
19
20 (indifferent user) also referenced the current need for technology, declaring technology adoption
21
22 in her home was a "necessity." Akirah (eager user) commented on how the broader community
23
24 relies on technology, where "now, everything is online. So, it's kinda like, you do have to adapt."
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31 **3.2.2. Parents recognized their child's positive attitude to reading with portable technology**

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33 Parents quickly relayed their child's affinity toward reading with portable technology. Some
34
35 children were drawn to technology for its extrinsic motivational affordances. Trisha's
36
37 (indifferent user) first-grade son "really likes the [LeapPad™] e-reader because it makes the
38
39 sound effects and it makes the stuff jump out at him. He really likes it when it reads it to him
40
41 word by word and highlights the words." Carrie (eager user) explained her first-grade boy enjoys
42
43 reading on portable technology because "there's just more things popping." Jake (eager user)
44
45 said his third-grade daughter was anxious to participate in the virtual read-athon because "they
46
47 get these virtual coins to buy things for their owl, it's like an avatar. And with that, there's an
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49 incentive to get coins if they comment or answer questions about the book that they're reading."
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53
54 Akirah's (eager user) kindergarten daughter liked reading on the ABC Mouse™ app because "at
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56 the end, it does give you all the, you know, woo-hoo! You did it. And then, she comes to me and
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4 like, I got four tickets instead of three.” She believes her daughter benefits from extrinsic
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6 motivational features because “it is something there to congratulate her, and then, even allow her
7
8 to play a game afterward to do different activities.”
9

10
11 Parents also praised the idea of reading with technology because it increased their child’s
12
13 interest levels, which resulted in their child possessing a more positive attitude toward reading.
14

15
16 Akirah’s (eager user) kindergarten daughter “wants to get on the computer and do that instead of
17
18 play with her dolls...it’s just amazing to me that technology is a part of her learning style or is a
19
20 part of her play.” Jake (eager user) also recognized his daughter’s fondness of reading with
21
22 portable technology, beginning with the LeapPad™ e-reader. After his daughter finished reading
23
24 all of the books in first-grade designed for the Leapad™, he bought her an iPad™ mini. He
25
26 attributed the purchase of the iPad™ mini to his daughter’s positive attitude toward reading with
27
28 technology, particularly “we would try so many out [e-books] and maybe a couple would stick
29
30 and then she’d read all the books.” He also praised the ability to purchase books quickly, which
31
32 provided copious options for reading. For example, while reading a print book, “she lost it, I had
33
34 to buy it, she found it again, but I’d already bought the digital copy,” Now in third-grade, his
35
36 daughter recently put her iPad™ mini to use engaging in collaborative reading opportunities such
37
38 as the following:
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44 she’s commenting on her friends and answering questions about the part of the book

45 she’s reading in there...with the readathon, she’s really understanding the interaction that

46 she can do with the, on the iPad™ as opposed to reading a book.
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53 **3.2.3. Parents prefer to adopt print-books to support their child’s reading development**

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55 Responses clearly indicated parents perceived their parental role included providing support for
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57 their child’s reading development in the home. However, despite their child’s desire to use
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4 portable technology for reading, parents were determined to help their child read using print-
5 books—the method they learned to read. Self-identifying as indifferent users to adopt portable
6 technology in their survey response, interview data revealed parents’ age as a reason for desiring
7 print books: Trisha identified as “traditional,” Nelda as “old-fashioned,” and Susan as “old-
8 school.”
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16 Parents contended reading with print books provides more benefits than reading with
17 portable technology. Jeanne (reluctant user) contended, “there’s something about holding a real
18 book that’s really different.” Yolanda (reluctant user) was also concerned about the lack of
19 tactile experience with some technology, “it just needs to be a person and a book where they can
20 go back and use their finger to go along the words and I just think a lot of that is missed with the
21 technology.” She expanded her reasoning, “you need to be able to feel the pages and listen to
22 someone reading to you and paying attention and looking at the pictures.” Tara (eager user)
23 preferred print-books because “there’s a lot of information out there on paper that isn’t on the
24 Internet.”
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38 Other parents addressed developmental concerns related to their child’s technology use.
39 Mandy (indifferent user) admitted, “maybe this is not the right thing to tell them, but we say that
40 if you’re on those things [portable technology], your brain melts.” Margarita (indifferent user)
41 added, “when we were younger, we didn’t have that stuff [technology] and it is consuming, it is
42 very consuming. They get side-tracked a lot, and that’s what I worry about.” Mandy (indifferent
43 user) concluded, “it’s important to me that my kids are outside playing or reading books, real
44 books.”
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55 Even though Jake (eager user) bought his third-grade daughter her own iPad™ mini when
56 she was in first-grade, he spoke of the need for a balance of text-type:
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4 I'm one of those people that believes that a little bit of everything is better than putting all
5
6 your eggs in one basket. I think that if you do 100% tablet, then it's not necessarily bad,
7
8 but I think they're missing out on something.
9

10 11 **3.2.4. Parents' performance expectancy increases when children read with portable** 12 13 **technology**

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15 Children learning to read with portable technology provides parents with time to accomplish
16
17 other tasks. Tara (eager user) confessed, "we don't have time as a society. Two working parents
18
19 don't have time to sit down and do homework for three hours a day. If the computer can help
20
21 with an hour of that three hours being academics, I think that in the long run it will make a
22
23 difference." Margarita (indifferent user) is a single mom and admitted "if I have something to do,
24
25 laundry or I've gotta make some phone calls... I do sometimes revert to them [portable
26
27 technology] as my helper." Jake (eager user) noted, "we're cognizant of where we take it [iPad™
28
29 mini], occasionally to a dinner. If mom and dad need some quiet time to talk... after dinner, she
30
31 can play on it while we talk." Akirah (eager user) also discussed the ability to accomplish more
32
33 tasks with technology. For example,
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37 having two kids, like sometimes, I'm with my baby, with my seven-month old, and I
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39 have to feed her or she gets fussy, so I have to tend to her. So, [my daughter], sometimes,
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41 she has to be that big sister and she has to kinda play on her own. So, even if it is with
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43 technology, reading or different activities. It [technology] definitely does help when you
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45 have a full-time schedule, full-time job.
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49 A primary benefit of using technology mentioned by Akirah (eager user) was that
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51 "technology definitely helps. It's not just one program; it's like a lot of programs." Drawn to its
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53 assistive learning affordances, Guadalupe (eager user) reflected, "I used to always say, grab a
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4 dictionary and look up that word. But they [my children] wouldn't. So, I love that on the digital
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6 text, it provides that opportunity so that they can go ahead and learn how to enunciate and learn
7
8 what the actual definition means." Tara (eager user) noted, "the screen is much more effective
9
10 because it colors the word yellow and it says the word out loud and it's helping her to recognize
11
12 words that she might not otherwise ask for help with." To expose her son to a variety of readers,
13
14 Nelda (indifferent user) accesses "YouTube™ a lot, and then I just put in the title of a book that I
15
16 already might have in the shelf, and then somebody's already narrating."
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21 **4. Discussion**

22
23 The purpose of this study was to identify predictors of parents' portable technology
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25 adoption in the home to understand how parents may be supporting children's reading
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27 development using technology within informal learning contexts. Grounded in Venkatesh and
28
29 colleagues' (2003) UTAUT, this study provides important empirical evidence that social
30
31 influence and attitude most significantly predict parents' portable technology adoption decisions
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33 to help their elementary child read in the home. Interview results revealed these influences were
34
35 remarkably shaped by the child's school and broader parent community, in combination with
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37 their child's positive attitude to use portable technology.
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43 **4.1. Social influence**

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45 While prior studies have identified social influence as a major determinant of computer use
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47 (Thompson, Higgins, & Howell, 1991) and acceptance of mobile learning (Chen, Wu, & Yang,
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49 2008; Jairak et al., 2009; Pardamean, & Susanto, 2012; Wang, Wu, & Wang, 2009), this is one
50
51 of the first empirical attempts to address predictors of portable technology adoption in the homes
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53 of parents with elementary children. The acceleration of technology ownership (Rideout et al.,
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55 2013; Zickuhr, 2013) in the home appears to be explained by our finding that 99% of children
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4 used portable technology in the home to support their reading development. Analysis of survey
5
6 and interview data revealed social influence is impacted by the child's school and the broader
7
8 elementary parent population.
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11 Interview data allowed us to make the connection between social influence and parents'
12
13 behavioral intention to adopt technology, specifically identifying others who influence
14
15 technology adoption decisions greatest is the child's school. Interestingly, survey responses
16
17 indicated a high level of agreement to behavioral intention to use portable technology in the
18
19 home to help their child learn to read ($M = 15.03$ out of a possible 21). For example,
20
21 comprehensive school wide technology initiatives were delivered to parents by the school's
22
23 administration in combination with additional requests to use technology by each child's teacher.
24
25 Though these school efforts appeared unclear to parents, these decisions presented themselves as
26
27 part of a larger home-school initiative to foster reading development in the home. Willingness of
28
29 parents to comply may be explained by prior research which has shown parents are willing to
30
31 comply with requests of their child's school (Miedel & Reynolds, 2000; Morrow & Young,
32
33 1996).
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41 Interview data demonstrated how each home differs regarding device ownership and
42
43 access to portable technology in the home, indicating that despite difficulty with access to
44
45 technology, parents ensured their children could use technology in response to requests of the
46
47 school. One parent in our interview sample of low socio-economic status (based on their ability
48
49 to receive free or reduced lunch) shared it wasn't until recently (December 2015) they could
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51 afford Kindle™ for their child because the price had finally dropped to \$50; meanwhile another
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53 mom said her child had won the device in a school raffle. Another family couldn't afford internet
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55 service, so they were forced to travel to a public place to access Wi-Fi where they could
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4 complete school requested homework. Based on the finding that technology has become a
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6 mandate by schools and in response to technology use in schools, it is important schools are
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8 aware of parents' financial hardship to provide their child with portable technology to support
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10 learning in the home.
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14 While schools clearly possess a powerful influence on portable technology adoption
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16 decisions in the home, our results show schools do not hold all the sway. Interview data revealed
17
18 parents were influenced to support their child reading in the home using a method similar to what
19
20 others were doing—noting others included the general elementary parent population and their
21
22 child's peers. Parents acknowledge children's access to learning applications is on the rise
23
24 (Rideout et. al, 2013; Zickuhr, 2013). To explain how parents are responding to the growing
25
26 popularity of learning applications, Yolanda explained her decision to purchase her daughter a
27
28 smartphone, tablet, and computer. Ultimately, she admitted fear of her daughter feeling
29
30 ostracized by her peers for not having experience with technology or owning outdated
31
32 technology. A different approach to technology acquisition by peer influence, Akirah noticed her
33
34 kindergarten daughter enjoyed reading with technology, so she conducted online research to
35
36 educate herself on what other parents were doing to support their children reading with
37
38 technology. Following her research, she bought her daughter two tablets and shared her daughter
39
40 is now an avid user of the ABC Mouse™ application to help her learn to read.
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48 **4.1.1. Social influence implications**

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51 With schools at the helm of technology decision-making, administration must give
52
53 forethought to how school requests directly impact parents' perceptions and technology adoption
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55 decisions in the home. To achieve successful home and school relationships regarding
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57 technology adoption, we encourage schools be cautiously intentional of their expectations for
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4 children using technology in the home as a learning tool, systematically inquire and dialogue
5 with parents about portable technology adoption and use, and heed caution of any dissonance
6
7 (Festinger, 1962) between home and school technology use.
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10
11 By engaging parents more actively in instructional and technology integration processes,
12 schools can capitalize on parents' knowledge and device ownership, which could lead to more
13
14 successful home and school technology integration programs. To reveal the depth of parents'
15
16 knowledge with portable technology and work toward a collaboration to support children's
17
18 reading development between school and home, we recommend schools inquire specifically
19
20 about technology devices and supporting applications children currently have in the home. Once
21
22 device and application usage information is obtained, it is essential that teachers act as a guide
23
24 for parents to ensure effective use of the chosen applications.
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31 Teacher awareness of the decisions impacting parents' technology adoption can expand
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33 and improve parent-teacher communication channels. The opportunity for teachers to foster
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35 parents' knowledge of technology adoption and application decisions can provide opportunities
36
37 to bridge student learning between the home and school. We recommend teachers communicate
38
39 explicit apps and technology integration methods that could make portable technology use in the
40
41 home easier for parents to execute.
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45 **4.2. Attitude**

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48 In our study, parents supported their child reading with technology based on the child's
49
50 positive attitude toward reading with technology. Although permitting their child to read with
51
52 technology contrasted with parents' personal beliefs about reading, parents perceived their
53
54 parental role included supporting their child's academic development in the home to support
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56 their child's interests (Hoover-Dempsey & Sandler, 2005; Hara & Burke, 1998).
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4 Our findings contribute to prior research on technology integration and children's
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6 learning which revealed the positive effect of attitude on computer use of sixth-grade Kuwaiti
7
8 students (Almahboub, 2000), and early childhood children's eagerness and engagement reading
9
10 with tablet-like devices (Korat & Or, 2010; Parish-Morris et al., 2013). In our survey findings,
11
12 attitude was a significant predictor of parents' portable technology adoption, identifying
13
14 elementary children possess a positive attitude toward reading with portable technology.
15
16 Interviews extended this finding to highlight children's affinity toward technology use in both
17
18 entertainment and learning contexts, yet parents preferred to adopt print-books. This disparate set
19
20 of beliefs caused us concern because parents and children are divergent on their preferred
21
22 method to learn to read, which beckons further discussion.
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29 Survey results show parents prefer helping their child read with print-books because they
30
31 don't believe having their child read with portable technology applications eases their job as a
32
33 parent (based on effort expectancy). Jake (an eager user) presented as our most experienced
34
35 technology user and admitted that him and his daughter spend an inordinate amount of time
36
37 searching for and locating developmentally appropriate apps. Interview data expanded how
38
39 parents locate apps for their child, identifying parents inquire with other parents (e.g., both
40
41 locally and online – reading reviews), and children ask their friends for app recommendations.
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46 In response to their child's positive attitude, parents are initially keen on their child using
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48 technology to support learning but it appears children's use over time eventually changes this
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50 perspective. Survey responses (based on performance expectancy) demonstrated parents believe
51
52 they have the knowledge to help their child use technology applications, yet portable technology
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54 like tablets and smartphones equipped with app affordances still remains a fairly new concept
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56 (e.g., the first iPhone™ was released in 2007). Potentially because of the newness of technology,
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4 we found interview data shows children quickly become the expert user but eventually use the
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6 device for entertainment instead of parents' intended adoption purpose, for learning. Parents
7
8 confided it is easier for their child to locate entertainment applications and that learning
9
10 application graphics can be subpar to game applications; this lack of visual appeal could provide
11
12 a negative influence when their child is given freedom to choose learning applications. For these
13
14 reasons, it is possible parents find print-books more suitable to help their child read because they
15
16 feel they can offer more parental control when their child reads a print-book.
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21 **4.2.2. Attitude implications**

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23 Our findings of how parents are responding to children's positive attitude toward learning
24
25 with portable technology is a matter of extreme concern to both parents and teachers. Our
26
27 findings that parents still hold a preference toward reading with print-books (Korat & Or, 2010;
28
29 Parish-Morris et al., 2013) leads us to believe parents might be missing an important opportunity
30
31 to capitalize on their child's positive attitude to develop their reading skills with portable
32
33 technology. The scarce research on children using portable technology for reading in the home
34
35 has shown that children enjoy reading with interactive applications, such as Dora the Explorer™
36
37 (Rideout et al., 2013). Contrasting uses of portable technology in the home and school has been a
38
39 concern addressed by other researchers (Plowman et al., 2012; Vandewater et al., 2007) and we
40
41 have concerns about how children's home use of technology, if unaided by the school and
42
43 classroom teacher, could create potential challenges (Festinger, 1962) for future teachers. We
44
45 caution if children are using portable technology in the home primarily for entertainment, this
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47 may clash with the classroom teacher's request to use these same devices for learning.
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55 **4.3 Limitations**

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4 While the current study provides insight into predictors of parents' portable technology adoption
5
6 decisions in the home, findings should be considered with the following two limitations. First,
7
8 data was self-reported from parents whom were asked about their perceptions to use technology
9
10 as a tool to support their child's reading development. It is possible that because these parents
11
12 knew they were being questioned about how they helped their child read that they may have been
13
14 bias to portray themselves in a more positive manner, for both how they permitted their child to
15
16 use technology in the home and how they perceived technology as a generally helpful academic
17
18 support tool. Second, because participants were from two schools and 46 classrooms about 100
19
20 miles apart from each other where parents chose to send their children, these parents may not
21
22 represent the general population of portable technology adoption in the homes of elementary
23
24 children. However, to address this lack of generalizability, this study was careful to include a
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26 school which contained demographics of the state where it was located.
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33 **4.4. Suggestions for future research**

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36 Based on our research findings that social influence and attitude are the most significant
37
38 predictors of parents' technology adoption in the home, we recommend researchers further
39
40 examine the impact of social influence which interview data shows results from school (e.g.,
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42 administration, teachers) and general parent population pressures. Future research might
43
44 investigate technology adoption at the administrative level, and how these decisions impact
45
46 individual teacher's technology adoption in the classroom. This research might shed some light
47
48 on the complexity of how today's children are influenced to learn to read in the school, given
49
50 ubiquitous technology adoption in the home. Additional findings show effort expectancy
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52 approached significance, therefore we urge further research on effort expectancy as a possible
53
54 predictor of technology adoption in the home. Research to effectively use portable technology in
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4 the classroom remains scarce (Burnett, 2009; Hutchison, Beschorner, & Schmidt-Crawford,
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6
7 2012; Northrop & Killeen, 2013). Now is a critical time to forge relationships between the home
8
9 and school to devise a plan in response to ubiquitous technology and its affordances for
10
11 successful learning opportunities in the home and school.
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14 Last, we encourage additional research examines portable technology use in the home to
15
16 help children learn to read. By nature of our study’s design, we did not obtain firsthand accounts
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18 of children reading in the home and recommend further research begin with case-study
19
20 investigations of how children may be using portable technology to support their reading
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22 development in the home. Since our study clearly identified children possess a positive attitude
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24 to learn to read with portable technology, we recommend future research seek to identify ways
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26 parents can foster children’s enjoyment while reading with portable technology in the home.
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31 **5. Conclusions**

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33 This study intentionally chose not to examine how children are learning to read with portable
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35 technology in school because we wanted to first address the recommendation (Burnett, 2009) to
36
37 examine technology adoption in the home. This investigation of technology adoption decisions
38
39 in the home provides a framework for understanding how children learning to read in the home
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41 with technology can directly impact children’s reading development in formal learning contexts.
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43 In accordance with the UTAUT (Venkatesh et al., 2003), we identified social influence and
44
45 attitude as the greatest predictors of parents’ portable technology adoption in the context of
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47 supporting their child’s reading development in the home.
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53 We are reminded that “good reading instruction begins at home” (Pressley, 2002, p. 179).
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55 Utilizing educational researcher and teacher-parent communication channels, our findings of
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57 what impacts parents’ technology adoption decisions to support children reading in the home can
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provide insight into how acquisition of technology in children’s home can improve reading development in the classroom.

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Table 1. Survey demographics
n = 120

Demographics	Percentage
Parent Gender	
Female	81.00%
Child Gender	
Female	42.59%
Child Grade	
K	18.33%
1	31.67%
2	15%
3	15.83%
4	5.83%
5	13.33%
First-born child	34.26%
Race	
African-American	10.19%
Asian/Pacific Islander	3.70%
Caucasian/Non-Hispanic	68.52%
Hispanic	12.96%
Multi-ethnic	4.63%
Age Range	
25-34	13.89%
35-44	64.81%
45-54	19.44%
65+	1.85%
Education	
High school diploma/GED	3.70%
Some college	15.74%
Associates	12.96%
Bachelor's	29.63%
Some graduate work	7.41%
Master's	22.22%
Doctoral	7.41%
Other	0.93%
SES	
Free/reduced lunch	19.44%
Technology Adoption Decision-Maker	
Primary	37.00%
Joint	62.96%

Table 2. Interview demographics (n = 13)

Demographics	Percentage
Female	92.31%
Child Gender	
Female	46.15%
Child Grade	
K	15.38%
1	38.46%
3	23.08%
4	15.38%
5	7.70%
First-born child	30.77%
Race	
African-American	15.38%
Caucasian/Non-	
Hispanic	61.54%
Hispanic	23.08%
Age Range	
25-34	38.46%
35-44	46.15%
45-54	15.38%
Education	
Some college	15.38%
Associates	15.38%
Bachelor's	38.46%
Some graduate work	15.38%
Master's	15.38%
SES	
Free/reduced lunch	38.46%
Technology Adoption	
Decision-Maker	
Primary	53.85%
Joint	46.15%

Table 3. Descriptive statistics
 Each item measured using Likert scale 1-7, maximum score of 7 for each item

Constructs	<i>M</i>	<i>SD</i>
<i>Performance Expectancy</i>		
PE1: I find portable technology applications useful in my parental role of helping my child learn to read.	4.91	1.37
PE2: Having my child use portable technology applications allows me to accomplish parenting tasks more quickly.	4.41	1.46
PE 3: My child's use of portable technology applications allows me to accomplish more parenting tasks.	4.41	1.42
PE4: If my child uses portable technology applications, it increases my effectiveness as a parent.	3.88	1.58
PE Overall	17.61	4.79
<i>Effort Expectancy</i>		
EE1: Having my child use portable technology applications to learn to read makes my job as a parent easier.*	4.19	1.61
EE2: The process of having my child use portable technology applications to learn to read is clear and understandable to me.	5.51	1.29
EE3: It would be easy for me to become skillful at helping my child use portable technology applications to learn to read.	5.71	1.27
EE Overall*	11.22	2.31
<i>Social Influence</i>		
SI1: Others around me who influence my parenting decisions think that I should have my child use portable technology applications to learn to read.	3.85	1.57
SI2: Others around me support my child's use of portable technology applications to learn to read.	4.11	1.47
SI3: Others around me can help my child use portable technology applications to learn to read.	5.09	1.49
SI4: Others around me think I should have my child use portable technology applications to learn to read.	5.25	1.51
SI Overall	18.30	4.57
<i>Facilitating Conditions</i>		
FC1: I have the resources necessary for my child to access portable technology applications to learn to read.	5.99	1.21
FC2: I have the knowledge necessary for my child to use portable technology applications to learn to read.	5.99	1.08
FC3: I prefer helping my child learn to read using traditional print books rather than portable technology applications.*	**5.40	1.31
FC4: I have someone I can contact for technical assistance with portable technology applications.	4.93	1.87
FC Overall*	16.91	3.16

Table 3. Continued

Constructs	<i>M</i>	<i>SD</i>
<i>Attitude</i>		
A1: It is a good idea to have my child use portable technology applications to learn to read.	5.08	1.45
A2: Portable technology applications makes learning to read more interesting for my child.	5.14	1.51
A3: It is fun for my child to use portable technology applications to learn to read.	5.56	1.29
A4: I like having my child use portable technology applications to learn to read.	4.91	1.53
A Overall	20.69	4.93
<i>Behavioral Intention</i>		
BI1: I intend on having my child use portable technology applications at-home to help with learning to read in the next 6 months.	5.04	1.80
BI2: I predict I would have my child use portable technology applications at-home to help with learning to read in the next 6 months.	5.02	1.70
BI3: I plan to have my child use portable technology applications at-home to help with learning to learning to read in the next 6 months.	5.01	1.78
BI Overall	15.07	4.98

*Two dropped items, constructs EE1 and FC3, and are not reflected in the overall score for individual constructs.

**FC3 was reverse coded. Value presented in table is adjusted.

Table 4. Regression analysis

Constructs	<i>B</i>	<i>t</i>	Sig.
PE	.105	1.10	.275
EE	.277	1.61	.11
FC	-.084	-.079	.432
SI	.410	4.19	< .0001
A	.299	2.87	< .005

$R^2 = .642$; Adjusted $R^2 = .624$

Figure

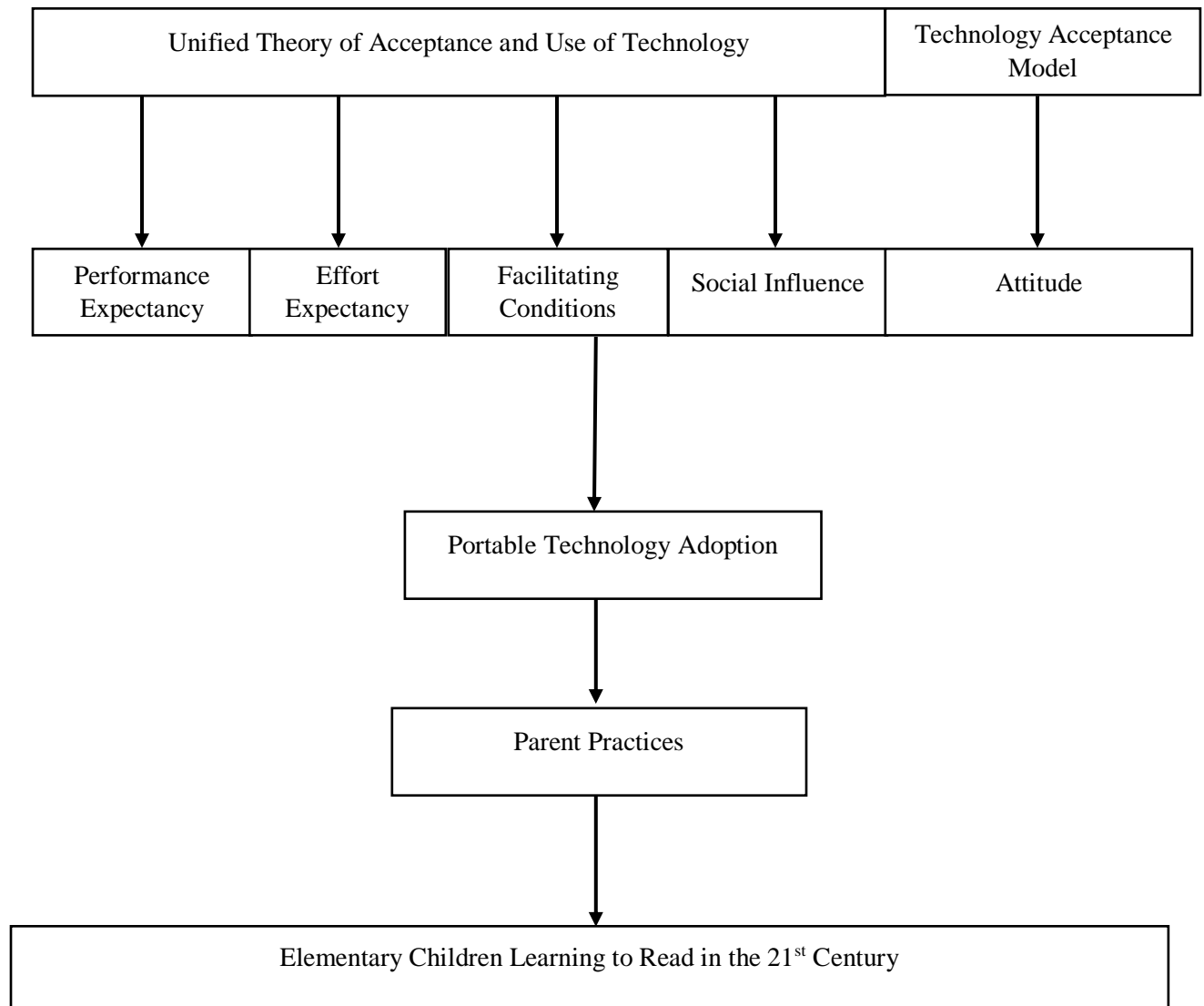


Figure Caption

Figure 1. Conceptual framework: This study's model for identifying predictor's of parents' portable technology adoption to support their elementary child learning to read in the home.

Predictors of Portable Technology Adoption in to Support Elementary Children Reading in the Home

Highlights

- 99% of children used portable technology in the home to support their reading development.
- Social influence and attitude are the greatest predictors of parents' portable technology adoption to support children's reading development in the home.
- Social influence significance is caused by school and broader parent community pressures.
- Attitude significance reflects children's enjoyment to read with portable technology.
- Teachers and parents must collaborate to foster children's technology use for learning in school and home contexts.

Appendix

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Recommended Referees

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